UNITED STATES PATENT AND TRADEMARK OFFICE

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DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _19 January 2006_.

2a)☒ This action is **FINAL.** ·　　　　2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-46_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-46_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 U.S.C. §101

1.   35 U.S.C. §101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the invention as disclosed in claims 1-46 is directed to non-statutory subject matter.

2.   Regardless of whether any of the claims are in the technological arts, none of them is limited to practical applications in the technological arts. Examiner finds that *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) controls the 35 U.S.C. §101 issues on that point for reasons made clear by the Federal Circuit in *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999). Specifically, the Federal Circuit held that the act of:

> ...[T]aking several abstract ideas and manipulating them together adds nothing to the basic equation. *AT&T v. Excel* at 1453 quoting *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Examiner finds that Applicant's "data corresponding to immediate certainties, near certainties, and longer term possibilities characterizing the at least one aerial combat situation" references are just such abstract ideas.

3.   Note that the reference to the "aerial combat situation" is simply what is called a "field of use" in 101 doctrine. The words "aerial combat situation" do not limit the claims to a particular practical application. It is unknown whether the claimed "aerial combat situation" refers to aerial dogfighting tactics, air to air missile engagement, electronic warfare engagement, weapons officer's activities, air to ground attacks, the control of a g-suit, reconnaissance and surveillance activities, vectored thrust control, control of variable wing geometries, or <u>whatever</u>.

4.   Each of these things is a different invention, but Applicant's claims cover all those practical applications and more....the claims are not limited at all in this respect.

5.   Examiner bases his position upon guidance provided by the Federal Circuit in *In re Warmerdam*, as interpreted by *AT&T v. Excel*. This set of precedents is within the same line of cases as the *Alappat-State Street Bank* decisions and is in complete agreement with those decisions. *Warmerdam* is consistent with *State Street's* holding that:

> Today we hold that *the transformation of data, representing <u>discrete dollar amounts</u>, by a machine through a series of mathematical calculations into a final share price*, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete and tangible result" -- *a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.* (emphasis added) *State Street Bank* at 1601.

6.   True enough, that case later eliminated the "business method exception" in order

to show that business methods were not per se nonstatutory, but the court clearly *did*

not go so far as to make business methods *per se statutory*. A plain reading of the

excerpt above shows that the Court was *very specific* in its definition of the new

practical application. It would have been much easier for the court to say that "business

methods were per se statutory" than it was to define the practical application in the case

as "...the transformation of data, representing discrete dollar amounts, by a machine

through a series of mathematical calculations into a final share price..."

7.   The court was being very specific.

8.   Additionally, the court was also careful to specify that the "useful, concrete and

tangible result" it found was "a final share price momentarily fixed for recording

purposes and even accepted and relied upon by regulatory authorities and in

subsequent trades." (i.e. the trading activity is the further practical use of the real world

monetary data beyond the transformation in the computer – i.e., "post-processing

activity".)

9.   Applicant cites no such specific results to define a useful, concrete and tangible

result. Neither does Applicant specify the associated practical application with the kind

of specificity the Federal Circuit used.

10.   Furthermore, in the case *In re Warmerdam*, the Federal Circuit held that:

...[T]he dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating 'abstract ideas' or 'natural phenomena' ... As the Supreme Court has made clear, '[a]n idea of itself is not patentable, ... *taking several abstract ideas and manipulating them together adds nothing to the basic equation*. In re Warmerdam 31 USPQ2d at 1759 (emphasis added).

11.   Since the Federal Circuit held in _Warmerdam_ that this is the "dispositive issue"

when it judged the usefulness, concreteness, and tangibility of the claim limitations in

that case, Examiner in the present case views this holding as the dispositive issue for

determining whether a claim is "useful, concrete, and tangible" in similar cases.

Accordingly, the Examiner finds that Applicant manipulated a set of abstract "data

corresponding to immediate certainties, near certainties, and longer term possibilities

characterizing the at least one aerial combat situation" to solve purely algorithmic

problems in the abstract (i.e., what _kind_ of "data" is used and how does it "correspond"

with "immediate certainties," "near certainties," and "longer term possibilities?" Is the

"data" sensed from somewhere? If so, what is sensed? Are the data entered by a

human? Is the data telemetry data? G-suit data? Aircraft orientation and configuration

data? Radar data? IR data? Sensor fused data? Probabilistic estimations of data?

Philosophical ideas about the engagement? Even vague expressions, about which even

reasonable persons could differ as to their meaning? Combinations thereof?) Clearly, a

claim for manipulation of "data corresponding to immediate certainties, near certainties,

and longer term possibilities characterizing the at least one aerial combat situation" is

provably even more abstract (and thereby less limited in practical application) than pure

"mathematical algorithms" which the Supreme Court has held are per se nonstatutory –

in fact, it _includes_ the expression of nonstatutory mathematical algorithms.

12.   Since the claims are not limited to <u>exclude</u> such abstractions, the broadest

reasonable interpretation of the claim limitations <u>includes</u> such abstractions. Therefore,

the claims are impermissibly abstract under 35 U.S.C. §101 doctrine.

13.   Since *Warmerdam* is within the *Alappat*-*State Street Bank* line of cases, it takes

the same view of "useful, concrete, and tangible" the Federal Circuit applied in *State*

Street Bank. Therefore, under *State Street Bank*, this could not be a "useful, concrete

and tangible result". There is only manipulation of abstract ideas.

14.   The Federal Circuit validated the use of *Warmerdam* in its more recent *AT&T*

Corp. v. Excel Communications, Inc. decision. The Court reminded us that:

> Finally, **the decision in In re Warmerdam**, 33 F.3d 1354, 31
> USPQ2d 1754 (Fed. Cir. 1994) **is not to the contrary.** *** The court found
> that the claimed process did nothing more than manipulate basic
> mathematical constructs and <u>concluded that 'taking several abstract ideas</u>
> <u>and manipulating them together adds nothing to the basic equation'</u>;
> hence, the court held that the claims were properly rejected under §101 ...
> Whether one agrees with the court's conclusion on the facts, <u>the **holding** of</u>
> <u>the case is a straightforward application of the basic principle that mere laws</u>
> <u>of nature, natural phenomena, and abstract ideas are not within the</u>
> <u>categories of inventions or discoveries that may be patented under §101</u>.
> (emphasis added) AT&T Corp. v. Excel Communications, Inc., 50
> USPQ2d 1447, 1453 (Fed. Cir. 1999).

15.   Remember that in *In re Warmerdam*, the Court said that this was <u>the dispositive</u>

<u>issue</u> to be considered. In the *AT&T* decision cited above, the Court <u>reaffirms</u> that this is

the issue for assessing the "useful, concrete, and tangible" nature of a set of claims

under 101 doctrine. Accordingly, Examiner views the *Warmerdam* holding as the

dispositive issue in this analogous case.

16.   The fact that the invention is merely the manipulation of *abstract ideas* is clear.

The data referred to by Applicant's phrase "data corresponding to immediate certainties,

near certainties, and longer term possibilities characterizing the at least one aerial

combat situation" is simply an abstract construct that does not provide <u>limitations</u> in the

claims to the transformation of real world data (such as monetary data or heart rhythm

data) by some disclosed process. Consequently, the necessary conclusion under *AT&T,*

State Street and *Warmerdam,* is straightforward and clear. The claims take several

abstract ideas (i.e., "data corresponding to immediate certainties, near certainties, and

longer term possibilities characterizing the at least one aerial combat situation" in the

abstract) and manipulate them together adding nothing to the basic equation. Claims 1-

46 are, thereby, rejected under 35 U.S.C. §101.

Claim Rejections - 35 U.S.C. §112

17.   The following is a quotation of the first paragraph of 35 U.S.C. §112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

18.   Claims 1-46 are rejected under 35 U.S.C. §112, first paragraph because current

case law (and accordingly, the MPEP) require such a rejection if a §101 rejection is

given because when Applicant has not in fact disclosed the practical application for the

invention, as a matter of law there is no way Applicant could have disclosed *how* to

practice the *undisclosed* practical application. This is how the MPEP puts it:

> ("The how to use prong of section 112 **incorporates as a matter of law** the
> requirement of 35 U.S.C. §101 that the specification disclose as a matter of
> fact a practical utility for the invention.... If the application fails as a matter of
> fact to satisfy 35 U.S.C. §101, then the application **also fails as a matter of
> law to enable one of ordinary skill in the art to use the invention under 35
> U.S.C. §112.**"); In re Kirk, 376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA
> 1967) ("Necessarily, compliance with § 112 requires a description of how to
> use presently useful inventions, **otherwise an applicant would
> anomalously be required to teach how to use a useless invention.**")
> See, MPEP 2107.01(IV), quoting In re Kirk (emphasis added).

Therefore, claims 1-46 are rejected on this basis.

Claim Rejections - 35 USC § 102

19.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed
> publication in this or a foreign country, before the invention thereof by the applicant for a patent.

20.   Claims 1, and 43-46 are rejected under 35 U.S.C. 102(a) as being anticipated by

Wigren (U.S. Patent Number 6,278,401 B1; dated 21 AUG 2001; class 342; subclass

195). Specifically:

Claim 1

        Claim 1's "configuring, using a computer, at least one tactical agent that includes

data corresponding to immediate certainties, near certainties, and longer-term

possibilities characterizing the at least one aerial combat situation;" is anticipated by

Wigren, col. 13, lin. 50-65, where it recites:

The probability calculations according to a preferred embodiment of the
present invention follow in general terms the procedure illustrated in FIG.
2. Here, the flow of the different measurements are shown together with
the dependence of the user selected probability of correct detection and
the target type system definition. A measurement is performed and the
result is sent to box 10. In this box, the measurement will be delayed
one step in order to become the second latest measurement M.sub.q-1
when passed further to box 11. The latest measurement will also pass
directly to **box 11**, then being the latest measurement M.sub.q. The
probability for correct detection P.sub.C and the definition matrix
.DELTA..TM. of the target type system is used in box 12 to compute the
likelihood with an ambiguity restoring procedure to form a likelihood look-
up table The likelihood is computed in box 11...

Claim 1's "processing, using the computer, the at least one aerial combat

situation using the at least one tactical agent; and" is anticipated by Wigren, col. 13, lin.

65-67, where it recites:

The likelihood is computed in box 11 **using the look-up
table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
update the target type probabilities in box 13.

Claim 1's "implementing the decision making, by at least one user or

independently by at least one intelligent agent, responsive to said processing step, and

the decision making used to initiate at least one action with respect to the at least one

aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 **using the look-up
table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
update the target type probabilities in box 13.

Claim 3

Claim 3's " A computer implemented or user assisted method of decision making

according to claim 1, wherein the at least one intelligent agent assists the at least one

user in the decision making for the at least one aerial combat situation by providing the

at least one user advice on coordinating the at least one aerial combat situation." is

anticipated by Wigren, col. 13, lin. 65-67, where it recites:

> The likelihood is computed in box 11 **using the look-up**
> **table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
> **update the target type probabilities in box 13**.

Claim 4

Claim 4's " A computer implemented or user assisted method of decision making

according to claim 1, wherein the at least one intelligent agent is configurable to perform

independent decisions in at least one of real-time and non-real time for the at least one

aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

> The likelihood is computed in box 11 **using the look-up**
> **table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
> **update the target type probabilities in box 13**.

Claim 43

Claim 43's "configuring, using a computer, at least one tactical agent that

includes data corresponding to immediate certainties, near certainties, and longer-term

possibilities characterizing the at least one aerial combat situation;" is anticipated by

Wigren, col. 13, lin. 50-65, where it recites:

The probability calculations according to a preferred embodiment of the
present invention follow in general terms the procedure illustrated in FIG.
2. Here, the flow of the different measurements are shown together with
the dependence of the user selected probability of correct detection and
the target type system definition. A measurement is performed and the
result is sent to box 10. In this box, the measurement will be delayed
one step in order to become the second latest measurement M.sub.q-1
when passed further to box 11. The latest measurement will also pass
directly to **box 11**, then being the latest measurement M.sub.q. The
probability for correct detection P.sub.C and the definition matrix
.DELTA..TM. of the target type system is used in box 12 to compute the
likelihood with an ambiguity restoring procedure to form a likelihood look-
up table The likelihood is computed in box 11...

Claim 43's "processing, using the computer, the at least one aerial combat

situation using the at least one tactical agent; and" is anticipated by Wigren, col. 13, lin.

65-67, where it recites:

The likelihood is computed in box 11 **using the look-up
table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
update the target type probabilities in box 13.

Claim 43's "implementing the decision making, by at least one user or

independently by at least one intelligent agent, responsive to said processing step, and

the decision making used to initiate at least one action with respect to the at least one

aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 **using the look-up
table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
update the target type probabilities in box 13.

Claim 44

Claim 44's "configuring, using a computer, at least one tactical agent that

includes data corresponding to immediate certainties, near certainties, and longer-term

possibilities characterizing the at least one aerial combat situation;" is anticipated by

Wigren, col. 13, lin. 50-65, where it recites:

> The probability calculations according to a preferred embodiment of the
> present invention follow in general terms the procedure illustrated in FIG.
> 2. Here, the flow of the different measurements are shown together with
> the dependence of the user selected probability of correct detection and
> the target type system definition. A measurement is performed and the
> result is sent to box 10. In this box, the measurement will be delayed
> one step in order to become the second latest measurement M.sub.q-1
> when passed further to box 11. The latest measurement will also pass
> directly to **box 11**, then being the latest measurement M.sub.q. The
> probability for correct detection P.sub.C and the definition matrix
> .DELTA..TM. of the target type system is used in box 12 to compute the
> likelihood with an ambiguity restoring procedure to form a likelihood look-
> up table The likelihood is computed in box 11...

Claim 44's "processing, using the computer, the at least one aerial combat

situation using the at least one tactical agent; and" is anticipated by Wigren, col. 13, lin.

65-67, where it recites:

> The likelihood is computed in box 11 **using the look-up
> table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
> **update the target type probabilities in box 13**.

Claim 44's "implementing the decision making, by at least one user or

independently by at least one intelligent agent, responsive to said processing step, and

the decision making used to initiate at least one action with respect to the at least one

aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 **using the look-up
table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
update the target type probabilities in box 13.

Claim 45

Claim 45's "configuring, using a computer, at least one tactical agent that

includes data corresponding to immediate certainties, near certainties, and longer-term

possibilities characterizing the at least one aerial combat situation;" is anticipated by

Wigren, col. 13, lin. 50-65, where it recites:

> The probability calculations according to a preferred embodiment of the
> present invention follow in general terms the procedure illustrated in FIG.
> 2. Here, the flow of the different measurements are shown together with
> the dependence of the user selected probability of correct detection and
> the target type system definition. A measurement is performed and the
> result is sent to box 10. In this box, the measurement will be delayed
> one step in order to become the second latest measurement M.sub.q-1
> when passed further to box 11. The latest measurement will also pass
> directly to **box 11**, then being the latest measurement M.sub.q. The
> probability for correct detection P.sub.C and the definition matrix
> .DELTA..TM. of the target type system is used in box 12 to compute the
> likelihood with an ambiguity restoring procedure to form a likelihood look-
> up table The likelihood is computed in box 11...

Claim 45's "processing, using the computer, the at least one aerial combat

situation using the at least one tactical agent; and" is anticipated by Wigren, col. 13, lin.

65-67, where it recites:

> The likelihood is computed in box 11 **using the look-up
> table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
> **update the target type probabilities in box 13**.

Claim 45's "implementing the decision making, by at least one user or

independently by at least one intelligent agent, responsive to said processing step, and

the decision making used to initiate at least one action with respect to the at least one

aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

> The likelihood is computed in box 11 **using the look-up
> table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
> **update the target type probabilities in box 13**.

Claim 46

Claim 46's "configuring, using a computer, at least one tactical agent that

includes data corresponding to immediate certainties, near certainties, and longer-term

possibilities characterizing the at least one situation;" is anticipated by Wigren, col. 13,

lin. 50-65, where it recites:

> The probability calculations according to a preferred embodiment of the
> present invention follow in general terms the procedure illustrated in FIG.
> 2. Here, the flow of the different measurements are shown together with
> the dependence of the user selected probability of correct detection and
> the target type system definition. A measurement is performed and the
> result is sent to box 10. In this box, the measurement will be delayed
> one step in order to become the second latest measurement M.sub.q-1
> when passed further to box 11. The latest measurement will also pass
> directly to **box 11**, then being the latest measurement M.sub.q. The
> probability for correct detection P.sub.C and the definition matrix
> .DELTA..TM. of the target type system is used in box 12 to compute the
> likelihood with an ambiguity restoring procedure to form a likelihood look-
> up table The likelihood is computed in box 11...

Claim 46's "processing, using the computer, the at least one aerial combat

situation using the at least one tactical agent; and" is anticipated by Wigren, col. 13, lin.

65-67, where it recites:

> The likelihood is computed in box 11 **using the look-up
> table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
> **update the target type probabilities in box 13**.

Claim 46's "implementing the decision making, by at least one user or

independently by at least one intelligent agent, responsive to said processing step, and

the decision making used to initiate at least one action with respect to the at least one

aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

> The likelihood is computed in box 11 **using the look-up
> table** and the two last measurements M.sub.q, M.sub.q-1 and is used to
> **update the target type probabilities in box 13**.

Response to Arguments

21.   Applicant's arguments filed 01/19/2006 have been fully considered but they are

not persuasive. Specifically:

Argument 1

> Regarding the Examiner's first argument that none of the claims are
> limited to a practical application in the technological arts, the Interim
> Guidelines state that the technological arts test is no longer to be used
> (Interim Guidelines, Annex III).

That basis for raising the rejection is withdrawn...but the other reasons for

making the rejection are not affected and are not withdrawn. None of the §101

rejections is withdrawn.

Argument 2

> Regarding the Examiner's second argument that the applicant
> cites no specific result that defines a useful, concrete and tangible result,
> just such a specific result is stated at the end of claim 1. When claim 1 is
> considered as a whole, as required by the Interim Guidelines § IV, the
> last line of claim 1, "the decision making used to initiate at least one
> action with respect to the at least one aerial combat situation," recites a
> useful, concrete and tangible result.
> The step of initiating an action meets the standard of a useful,
> concrete, and tangible result as stated in the Interim Guidelines
> §IV(C)(2). The initiation of action is useful because it initiates an action
> that has clear military applications. The initiation of an action is tangible,
> because it is a step in a process for taking action in an aerial combat
> situation. Finally, the initiation of an action is concrete, because it is
> repeatable.

Applicant only claims a "field of use" of the algorithm. Specifically, the claim says:

> "...implementing the decision making, by at least one user or
> independently by at least one intelligent agent, responsive to said
> processing step, and the decision making used to initiate at least one
> action with respect to the at least one aerial combat situation."

The claim doesn't, give the limitation to claim what it really does. Actually, the

claim doesn't even require the "action" to even occur outside the computer...just that it

is made "with respect to" an aerial combat situation...whatever that means. It could

mean that it controls the orientation of the plane/helicopter/whatever. It could also mean

that it controls the weapons system like a "weapons officer" would (a completely

different task/practical application.) It could also mean that it is an in flight diagnostic

system...or a communications system...or a navigator...or a life support systems

manager...or a combat strategist...or an energy (fuel/electricity) use optimizer...or a g-

suit controller...or a stall warning system...or a multi-sortie coordinator...or an EW

device...or a multi-UAV coordinator...or an AWACS type system...or whatever.

Each of these is a separate and independent invention. The only thing these

things have in common would be the underlying algorithm. Applicant is not entitled to a

single patent to an abstract algorithm that secures all these separate inventions within

its scope; Applicants are entitled to only one invention per patent.

Accordingly, Applicant's recital of the words "aerial combat situation" is

insufficient to properly limit the claims to a practical application. The §101 rejection was

properly made and, thereby, stands.

On a related point, in Applicant's preamble, he drafts the claim to be drawn to a

"system" (i.e., apparatus) OR a "method" (i.e., process.) The claim is indefinite as to the

type of subject matter that is being claimed and on that basis alone is fatally flawed with

respect to §§101 and 112, first paragraph. Again, the §§101 and 112, first paragraph

rejections stand.

Argument 3

> The Examiner rejected claims 1-46 under 35 U.S.C. §112, as a
> consequence of rejecting claims 1-46 under 35 U.S.C. §101. Applicant
> respectfully requests the Examiner to withdraw the rejection under 35
> U.S.C. §112 in light of applicant's response to the rejection under 35
> U.S.C. §101.

The §101 rejections stand. Therefore, the §112 rejections remain uncured.

Argument 4

First, Wigren fails to teach the element of a tactical agent. Embodiments of the present invention are directed towards a tactical agent, and as described in the specification, "Agents and humans collaborate because humans and agents jointly perform tasks" (Specification, page 3). The specification further describes that, "The described ATS provides a feedback loop between an intelligent agent and a user," and "Agents and users (humans or other agents) exchange information throughout ATS running" (Specification, page 3).

Applicant defines his "agent" as one that is interactive. Wigren also discloses interactivity with its agent in col. 24, lines. 15-25, where it recites:

...are the prior probabilities of a true cross. These are to be **selected by the user** keeping in mind that the prior probabilities of a true cross and P(TS) shall sum up to one along each strobe track (including the cross under evaluation). Examples of possibilities are to set the all equal or equal to P(order(X)) i.e. to a quantity that depend on the order of the cross. In this way higher order crosses could be further favored. As an other alternative, a dependence on the geographical location of the cross could be introduced. The quantity P(TS) is the prior probability that the strobe track corresponds only to a direction. Also this quantity is at the users disposal.

Therefore the §102 rejection is not withdrawn.

Argument 5

> Therefore, although the portion of Wigren cited by the Examiner does
> suggest that the user inputs data into the system, this input is at most a
> single parameter. The input of a single parameter in Wigren does not
> teach the element of a tactical agent as that term in understood in light of
> the specification.

Actually, there is more than one parameter that is selectable by the user in

Wigren.   Again, col. 24, lines. 15-25 of Wigren teach this...especially the last sentence

of that disclosure:

> ...are the prior probabilities of a true cross. <u>These are to be **selected by
> the user**</u> keeping in mind that the prior probabilities of a true cross and
> P(TS) shall sum up to one along each strobe track (including the cross
> under evaluation). Examples of possibilities are to set the all equal or
> equal to P(order(X)) i.e. to a quantity that depend on the order of the
> cross. In this way higher order crosses could be further favored. As an
> other alternative, a dependence on the geographical location of the cross
> could be introduced. The quantity P(TS) is the prior probability that the
> strobe track corresponds only to a direction. <u>Also this quantity is at the
> users disposal</u>.

Therefore the §102 rejection is not withdrawn.

Argument 6

> Second, Wigren fails to teach a system that "includes data corresponding
> to . . . longer term possibilities." The portion of Wigren cited by the
> Examiner describes the system as using measurements Mq and Mq-1 in
> computing the next target type probability. These measurements are
> described on column 7, lines 33-38, as "the last two measurements."
> Because Wigren uses prior measurements to estimate a target type, and
> not <u>future measurements</u>, Wigren cannot not teach a system that
> "includes data corresponding to . . . longer-term possibilities."

"Future measurements"?! That refers to a predictive, non-causal system. The

claim language does not fairly disclose that it uses <u>future measurements</u> in order to

predict future predictions. (Hmmm...From where does it acquire "future measurements"

in order to make other future predictions? Anyway...) Applicant's claims cannot be fairly

construed to read that way. Therefore, Wigren properly anticipates the claim and the

rejection stands.

Argument 7

Claim 3

Claim 3 depends from claim 1, and therefore claim 3 is believed to be
allowable for at least the same reasons as claim 1.

The arguments made for the allowability of claim 1 are not sufficient to justify

withdrawal of the rejections. Accordingly, there is no novel, non-obvious, statutory

material present in this claim (via incorporation by reference to the independent claim.)

Therefore, the rejections of this claim stand.

Argument 8

Claim 4

Claim 4 depends from claim 1, and therefore claim 4 is believed to
allowable for at least the same reasons as claim 1.

The arguments made for the allowability of claim 1 are not sufficient to justify

withdrawal of the rejections. Accordingly, there is no novel, non-obvious, statutory

material present in this claim (via incorporation by reference to the independent claim.)

Therefore, the rejections of this claim stand.

Argument 9

Claim 43

Regarding claim 43, the rejection fails to address all the limitations of the claim. Specifically, the rejection does not address a "tactical agent object that includes a plurality of resources," therefore applicant respectfully requests this rejection to be withdrawn.

Wigren does address a plurality of resources. Let's take a look at Wigren, col. 12,

lines 62-67 and col. 13, lines 1-4, where it recites:

To describe how this is implemented it is most instructive to return to the definition of measurements and then to consider the update equation. in this description, only two types of different measurement outcomes--type 1 and type 2--will be discussed. **The inclusion of other data sources by definition of e.g. measurement outcomes--type 3 follows a similar pattern and it is obvious for anyone skilled in the art how to proceed.** The measurement outcomes--type 1 and measurement outcomes--type 2 may e.g. correspond to ESM measurements and IRST measurements, respectively.

The rejection, therefore, stands.

Argument 10

Claim 44

Claim 44 recites the features of a tactical agent, and "one tactical agent that includes data corresponding to . . . longer-term possibilities," as

found in claim 1. Therefore claim 44 is believed to be allowable for at
least the same reasons as claim 1.

The arguments made for the allowability of claim 1 are not sufficient to justify

withdrawal of the rejections. Accordingly, there is no novel, non-obvious, statutory

material present in this claim (via incorporation by reference to the independent claim.)

Therefore, the rejections of this claim stand.

Argument 11

Claim 45

Claim 45 also recites the features of a tactical agent, and "one tactical
agent that includes data corresponding to . . . longer-term possibilities,"
as found in claim 1. Therefore claim 45 is believed to be allowable for at
least the same reasons as claim 1.

The arguments made for the allowability of claim 1 are not sufficient to justify

withdrawal of the rejections. Accordingly, there is no novel, non-obvious, statutory

material present in this claim (via incorporation by reference to the independent claim.)

Therefore, the rejections of this claim stand.

Argument 12

Claim 46

> Claim 46 also recites the features of a tactical agent, and "one tactical
> agent that includes data corresponding to . . . longer-term possibilities,"
> as found in claim 1. Therefore claim 46 is believed to be allowable for at
> least the same reasons as claim 1.

The arguments made for the allowability of claim 1 are not sufficient to justify

withdrawal of the rejections. Accordingly, there is no novel, non-obvious, statutory

material present in this claim (via incorporation by reference to the independent claim.)

Therefore, the rejections of this claim stand.

Conclusion

22.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Wilbert L. Starks, Jr. whose telephone number is (571)

272-3691.

Alternatively, inquiries may be directed to the following:

S. P. E. David Vincent   **(571) 272-3080**

Official (FAX)   **(571) 273-8300**

WLS

01 April 2006